

FIG. 1

No.	Mixing composition	Composition analysis values			HcJ [Oe]	Br [G]	Hk/HcJ [%]	Mean grain size [μm]	Phases
a+b	a	x	a	b					
1		0			0	2845	4592	79.08	0.628
2		0.05			0.047	3007	4627	85.04	0.544
3		0.1			0.093	3187	4629	85.31	0.494
4		0.2			0.19	3388	4702	85.77	0.490
5		0.3			0.28	3406	4699	90.81	0.469
6	18	0.4	1.7	15.1	0.37	3376	4705	86.99	0.487
7		0.5			0.47	3315	4663	86.72	0.489
8		0.6			0.56	3251	4660	86.92	0.498
9		0.7			0.65	3184	4631	86.81	0.511
10		0.8			0.75	3103	4615	86.31	0.513
11		0.9			0.84	3010	4575	86.11	0.547
12		1			0.93	2889	4532	85.62	0.602

Note:
 $a, b, x: \text{Sr}_{(1-x)}\text{Ba}_x\text{Fe}^{2+}\text{Fe}^{3+}\text{O}_{27}$

FIG. 2

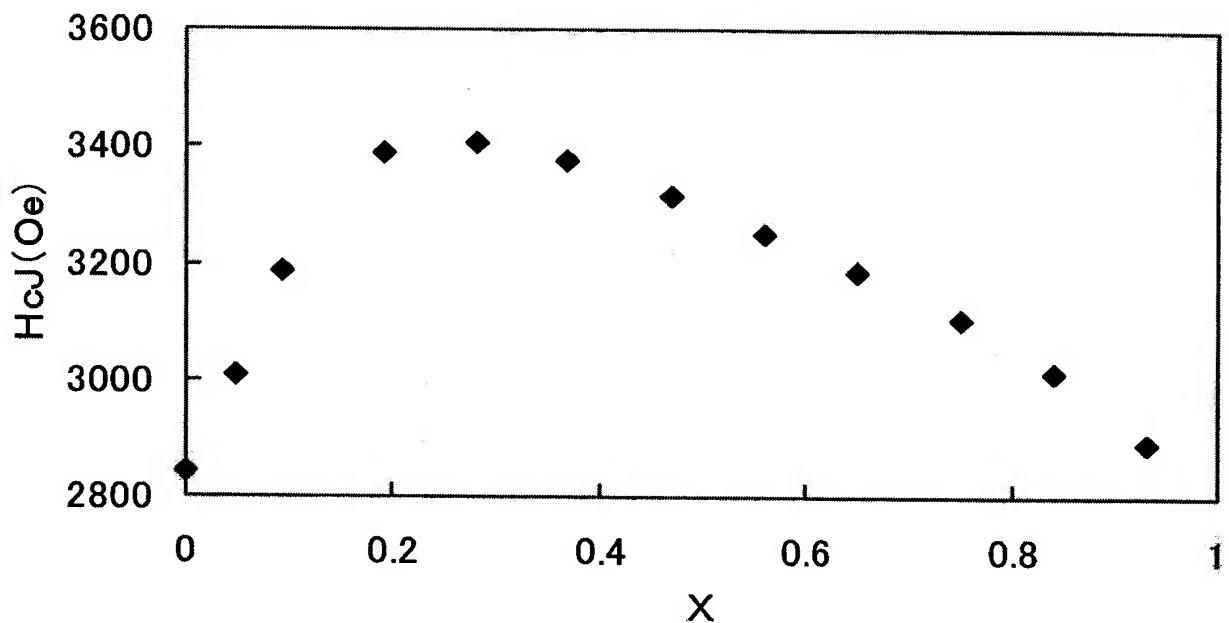


FIG. 3

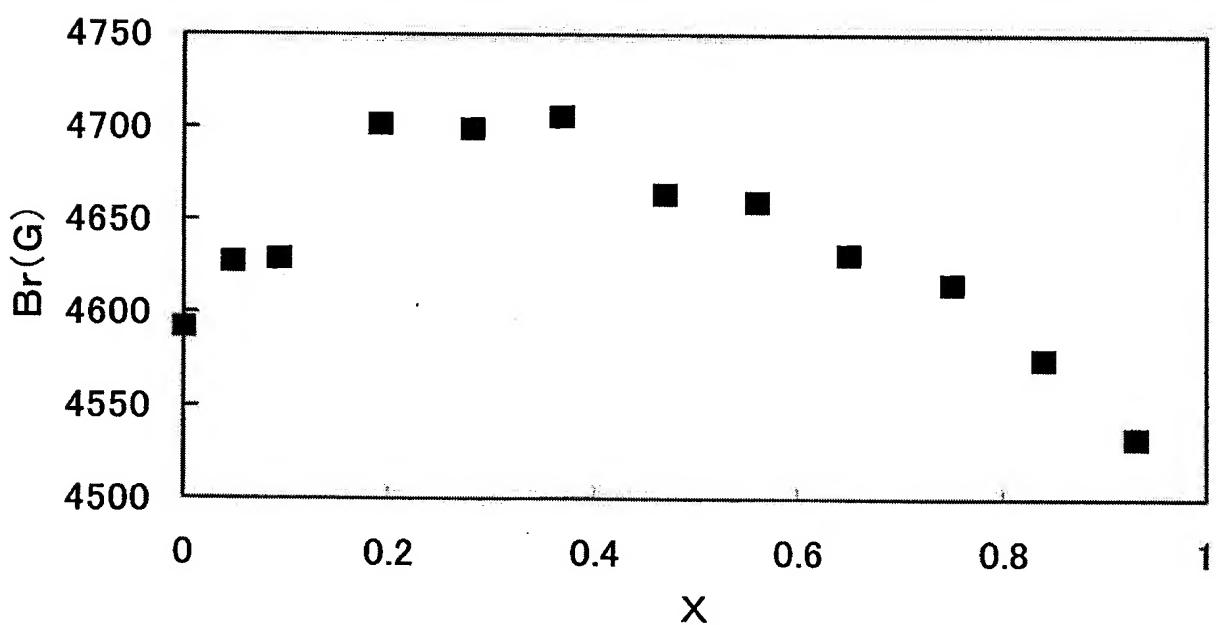


FIG. 4

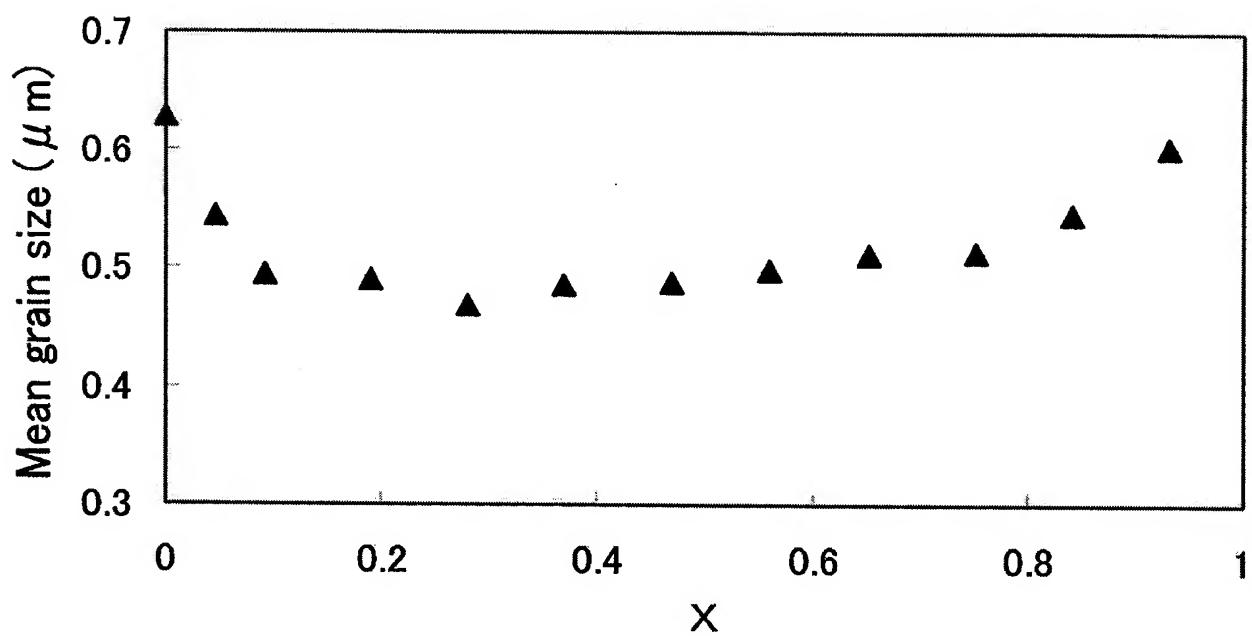


FIG. 5

No.	Additive amounts in second milling [wt%]				HcJ [Oe]	Br [G]	Hk/HcJ [%]
	SiO ₂	CaCO ₃	SrCO ₃	BaCO ₃			
13	0.6	0	0.7	1.4	3473	4606	89.97
14				1.75	3483	4603	91.50
15			1.05	1.05	3385	4600	91.37
16				1.4	3397	4602	90.13
17		0.35	0	1.4	3309	4660	92.53
18				1.75	3595	4656	92.12
19			0.35	2.1	3736	4647	91.99
20				2.45	3699	4632	91.24
21		0.7	0.35	0.7	3254	4705	92.19
22				1.05	3443	4635	92.56
23			0.7	1.4	3626	4660	86.18
24				1.75	3718	4611	89.08
25		1.05	0.7	0.7	3571	4687	92.74
26				1.05	3632	4675	91.18
27			1.05	1.4	3711	4660	90.94
28				0.7	3586	4702	91.49
29		1.4	1.05	1.05	3693	4616	89.68
30				0	3486	4660	90.53
31			1.4	0.35	3583	4623	91.57
32				0.7	3458	4608	88.54
33	0.9	0.7	0	0.7	3180	4635	86.47
34				1.05	3388	4693	88.54
35			0.35	1.4	3486	4678	91.42
36				1.75	3650	4641	90.73
37		0.7	0.35	2.1	3571	4632	85.74
38				0.7	3376	4656	92.56
39			0.7	1.05	3534	4663	93.71
40				1.4	3589	4687	90.55
41		1.05	0.7	1.75	3400	4641	88.23
42				0.7	3614	4666	88.18
43			1.05	1.05	3638	4687	87.60
44				1.4	3565	4660	87.65
45		1.4	0.35	0.35	3602	4650	93.69
46				0.7	3522	4681	94.03
47			0.35	1.4	3110	4699	86.39
48				1.4	3143	4641	90.76
49		0.7	0.35	1.05	3309	4684	86.88
50				0.7	3315	4684	90.49
51			0.7	1.05	3498	4629	89.33
52				1.4	3583	4635	90.70
53			1.05	1.05	3583	4629	92.43

FIG. 6

Additive amount [wt%]		Composition analysis values		
SrCO ₃	BaCO ₃	a	b	x
0	0.7	1.7	15.4	0.3369
	1.05		14.9	0.3522
	1.4		14.5	0.3683
	1.75		14.1	0.3822
	2.1		13.8	0.3994
	2.45		13.4	0.412
0.35	0.7	1.7	14.8	0.3251
	1.05		14.4	0.3416
	1.4		14.0	0.3569
	1.75		13.6	0.3614
0.7	0.7	1.7	14.3	0.2873
	1.05		13.9	0.3054
	1.4		13.5	0.3204
	1.75		13.2	0.3365
1.05	0.35	1.7	14.1	0.2873
	0.7		13.8	0.3054
	1.05		13.4	0.3204
	1.4		13.1	0.3365
1.4	0	1.7	14.0	0.2617
	0.35		13.6	0.2782
	0.7		13.3	0.2955

Note:
 $a, b, x: \text{Sr}_{(1-x)}\text{Ba}_x\text{Fe}^{2+}\text{Fe}^{3+}\text{O}_{27}$

FIG. 7

Composition analysis values			HcJ [Oe]	Br [G]	Hk/HcJ [%]	Phases
x	a	b				
0.28	1.0	15.1	3402	4588	88	W+M
	1.2		3355	4610	89	W+M
	1.5		3332	4688	91	W+M
	1.8		3456	4691	89	W+M
	2.0		3334	4667	87	W
	2.2		3077	4670	86	W
	2.5		2882	4651	79	W+S
	12.2	1.7	2891	4668	80	W+M
	13.5		3022	4667	88	W+M
	14.5		3398	4690	88	W+M
	15.5		3402	4687	87	W+M
	15.8		3325	4678	88	W+M
	16.0		3365	4615	91	W+M
	16.2		3403	4592	89	W+M